COAL AGE

With Which Is Consolidated The "Colliery Engineer" and "Mines and Minerals"

INDEX TO VOLUME 42

January to December, 1937

NOTE—The articles and references in this index have been classified under leading subjects or topics, as far as practicable, and should be sought under such heads, which, together with all unclassified matter, are arranged aphabetically. Illustrated articles, or cuts standing by themselves are indicated by an asterisk (*). The subject matter of editorials will be found classified under the subject with which they deal and marked (e). Many titles of articles are abbreviated, the sim being to give prominence to important words. Following is a list of the pages included in each issue of the volume, for convenience of reference:	Commission report holds unity vital to hard-coal rehabilitation, Oct	Dead statistics (e)
Pages	Minersville, Pa., bootleggers get wage raise	Fireless cooking makes smokeless fuel and byproducts at Tacoma, Wash. J. E. Louttit
Baker mine explosion blamed on wood soals, Sept	Anthracite Board of Conciliation Dr. Thomas E. Larkin appointed umpire, Sept. *8 Anthracite Industries, Inc. Automatic heating exhibitions to be run 9 Laboratory work to be expanded 9 Meeting shows movie, Oct 9 Permanent exhibits of modern anthracite burning equipment to be established 17	holds hearings on classification and prices, Nov
Philadelphia & Reading Coal & Iron not blamed for explosion	Appalachian Coals, Inc. Election of officers	Coal Control Assn. of Western Pennsylvania Reorganized as Western Pennsylvania Coal Operators' Assn
American Institute of Mining and Metal- lurgical Engineers Anthracite Section elects officers	Big Sandy-Eikhorn Coal Operators' Assn. Officers elected	Coal Trade Assn. of Indiana Officers elected
in Pittsburgh, Dec*150 American Mining Congress New equipment at Cincinnati exposition.*270 Report of Cincinnati convention	Bituminous Coal Changes in productive capacity of mines in 1936, Feb. '37 8 Consumption by months30, 93, 128, 169, 292, 330, 372, Sept. 81, Oct. 85, Nov.	Compressed Air Compressed-air engine effects savings 2 Conveyors
American Society for Testing Materials Committee D-5 plans revision of test methods	83, Dec. 14 Production, monthly 30, 93, 128, 169, 292, 330, 372, Sept. 81, Oct. 851, Nov. 83, Dec. 14 Regulation upset in 1936 as industry tighens battle lines in fight with competition 4 Surplus capacity no longer menaces bituminous industry. D. P. Morton, Jan. '37	seam coal. Rocky Mt. Institute meeting
in Pittsburgh, Dec*150 Anthracite Anthracite Conciliation Board to renew present wage contract, Dec	Bituminous Coal Research, Inc. Battelle continues research on stokers, Dec. 16 Battelle meeting finds higher viscosity oils more effective in dust control, Nov. 9 How heating methods affect type of coke buttons 29	work pitching seams in Washington mines. Thomas Murphy
governor 94 Bootleg inquiry begins 174 Bootleg mining commission holding meetings in Pennsylvania 224 Bootleg mining commission in Pennsylvania gives governor three plans 292 Bootleg mining in Pennsylvania may have federal control 330	Residential heating research	D Drainage Acid water harms coal producer (a) 24
have federal control	Dummy-filling machine works by vibra- tion, Sept	Bell & Zoller's pumping and drain- age, Dec. Borchole discharge protected by oil drum. Bulkheads at mines (A.I.M.E. Meeting) 12

Ja

COAL AGE

Chain-drag ditch cleaner*125 Clean out sumps (e)142	I	Nut threads made to work easily in dusty locations, Nov
Pocahontas Fuel completes 18.6 mile drainage system	Illinois Mineral Industries Report of Urbana conference, Nov 114	Plastic wood for electrical repair work, Nov. Reclaiming clutch flanges, Walter Baum
Sahara mine dewatering bill vetoed 376 Drainage. See also Pumps and Pumping.	Illinois Mining Institute	Reclaiming shortwall frames. Walter Baum, Oct
_	Election of officers, Dec	torch 28 Substation operators grind bits. Bell & Zoller, Dec *13 Torch holder for lathe. Walter Baum. *16
Economics	Indiana Coal Mining Institute	Trolley poles manufactured on metal working planer
Nebraska "Little TVA" curb extended 96 Norris' geven TVA bill opposed by coal	Officers elected	Welding costs cut by piping gases to points of use at Consolidated Coal*11 McGraw, James H., Jr., succeeds Muir*34
Surplus capacity no longer menaces bi- tuminous industry. D. P. Morton *17	International Labor Organization Coal pariet to be held in Geneva 330	Mechanization. See also Conveyors and
Electricity Bell & Zoller's electrification, Dec*102		Mining Methodes. Analysis of variables key to mechanization success. W. M. Dake, Oct 5
Blinker switch	K	should be frank (e)
County's Sharples mine106	Kanawha Valley Mining Institute	Bell & Zoller's mining methods and mechanical leading, Dec
Ground Indicator guards mine-cable system*369	Officers elected 98	Hudson Coal speeds development by up-
Hot hooks' with own fuses replace	L	hill shakers, duckbills, scrapers and hoes. R. D. Hall, Sept*5 Loader time studies discussed at Indi-
Lightning danger minimized by protec-	Labor. See also United Mine Workers.	Loaders, cutters and other mechaniza-
tive devices. Pearce & Allen pt. 1, Sept. *59; pt. 2, Oct*51 Marvine double pumping station has	Anthracite Conciliation Board to renew	tion overcome face-preparation prob- lems at Nellis, Nov
Motor-driven timing relay for changing	present wage contract, Dec	Loading equipment used with maximum advantage. W. H. Johnson 31 Mechanical loading makes new records
sequence controls in preparation plant	Appalachian conference on wages near	Mechanical loading records for 1935 and
Power equipment keeps step with mech-	deadline	Mechanical mining—American Mining
Power problems—American Mining Con-	Appalachian wage conference demands	Congress convention
gress meeting	not economically possible (e) 102 Appalachian wage contract (e) 182 Appalachian wage negotiations start 134	Rear conveyor light shows roof *19
Bell & Zoller, Dec	Black-Connery bill hearings	Reliance mine modernized by mechan- ical loading. C. E. Swann, Nov
Switchgear exhibit to visit coal mining	CIO may involve mines (e) 304 Federal indictments handed down in	ors work pitching seams in Washing
Thyrite unit protects substations from short circuits	Illinois bombings	Truck mine in Ohio produces 9.7 tons
Transformers protected by inverted steel boat	Illinois wage pact signed	per day by using loaders and convey- ors. J. H. Edwards
Trends in power use and cost at Appalachian Coal Mines. Jackson and Crow	Jones employees join U.M.W., Nov 112 Operators deny Lewis' charge of break-	per cent by mechanization. Carl Mc- Farlin*35:
Expositions	ing wage pact	Willow Grove mine featured by com- plete mechanization. Russell McHugh, Oct. *4'
Mining exhibit to be at Golden Gate exposition, Nov	Illinois, Oct 96 "Sit-in" at Coaldale lasts six days, Nov. 103	Mechanized Mining Commission
capolition, and	Social responsibility for laying off men (e)	Election of officers
F	Wage study for U.M.W. to be made by Dr. Polakov	Merchandising
Financial reports of coal companies175, 230	West Virginia miners' license bill dies 170 West Virginia Miners' license bill op- posed by operators	Anthracite Industries, Inc., speeds sales promotion work
First Aid and Mine Rescue Central West Virginia first-aid contest,	Lamp clips tightened with friction tape,	Anthracite takes sales story to con-
Sept	Nov*76	sumers *57 Bell & Zoller's merchandising methods Dec. *138
Union Pacific Old Timers' Assn. holds reunion and meet 376	Law and Legislation Bootleg action asked by Pennsylvania	Bituminous coal heating economy in booklet, Sept
Floods	National Coal Assn. committee on pub-	Bituminous coal market promotion cam- paign
Curtail coal output in Kentucky and Illinois	lic and government relations has been renamed, Dec	N.C.A. convention emphasizes market-
Freight Rates	New Jersey coal trucking bill signed 330 Pennsylvania licensing act signed 292 Leslie Larsen stripping sold to Sentry	New homes are a market for coal and
Anthracite rates attacked 341 Coal men oppose rise in rates at Inter-	Coal Mining Co	stokers (e)
state Commission meeting 223 I.C.C. denies carriers' plea for surcharge	Loading. See Mechanization.	modern merchandising, Nov 92
extension	Logan County Coal Operators' Assn. Officers elected	Wholesale sales increase
ICC grants coal rate rise, Dec 162 ICC to meet to hear rate protests, Dec. 168		Mine Inspectors' Institute of America Columbus convention discusses safety 377
Pennsylvania Coal & Coke's complaint dismissed	M	Officers elected
in Fayette County 333	Maintenance	Mining Methods. See also Conveyors and Mechanization.
C	Arc-weld tire-filling practice, Boone County	Anthracite progress in 1936 53 Bell & Zoller's mining methods and
Great Britain	Armatures with bent teeth improved by	mechanical loading, Dec*79 Bituminous progress in 1936*62
Regulation of the mining industry. Paul Wooton	trimming teeth	Caving chambers prevent water and gas from breaking roof. Anthony Shaci- koski
ing in 1936*301	Bander made from locomotive parts*329	koski
н	Bearing trouble ended by brush between cap and shaft, Nov	Excelsior uses conveyor mining for thinvein district. Degen Boyd, Oct *51 Hudson Coal speeds development by
	Dec. *125	complete mechanization. R. D. Hall.
Harlan County Coal Operators' Assn. Officers elected	Circle cutting with torch. 230 Cutting shapes with lathe. Walter Baum 290 Device for replacing burned out bulbs	Sept. *53 Long-face operation, Harvey Coal Corp. *12 Long-hole volley shooting razes pitch- ing pillars at Westwood. R. D. Hall. *349
Hazard Coal Operators' Assn.	Device for replacing burned-out bulbs. *28 Dipper salvaged by welding, Oct	
Officers elected		Rainey mines
Holmes, Joseph A., Safett Assp. Mononghèla County Chapter elects offi- cets	Locomotive axie chains add to tire life. *326 Locomotive maintenance cost reduced by shop jigs	shaking conveyors. Thomas Murphy, *183 Scraper and conveyor methods used in Whitwell low-seam mine cut costs. Carl McFarlin*352
HOIM TIORTS		

Selective mining (e)	Remote control	Kennedy, Leonard 99
Slusher rock handling nets 4.03 cu. yd.	Shunt 235	Learned, Frank E., Dec
per man-day*143	Starter, direct current, Nov*125 Switchgear units*235	Lewis, William B
Truck mine in Ohio produces 9.7 tons per man by using loaders and con-	Electrode	Liveright, A. M
veyors. J. H. Edwards*187	Excavator*140, 390	Monay, William
Turner all-conveyor mine averages 8.27	Feed water control*389	Moorman, Jesse T
tons per man-shift. J. H. Edwards,	Feeder, Sept 102	Morrison, Charles H
Sept	Flashlight	Oliphant, Julian 30
anization plus three-shift schedule.	Galvanized sheet	Peabody, J. Paul, Oct 90
Russell McHugh, Oct *47	Gas alarm 346	Peltier. Peter M 388
ant to Gother of Wome Seatte	Gas indicators, Oct*114 Grading units236	Price, John W., Sept 99 Ramsay Andrew C 295
Mining Society of Nova Scotia	Grinder*390	Ramsay, Andrew C. 295 Rausch, William S. 99
Election of officers	Hammers, portable, Sept 102	Riggs, George W
and planning in mining 381	Hat, safety*179, 235	Sprenkle, Ralph
	Haulage aids, Sept*101 Heating unit *139	Sutton, Edgar B
Modernization	Heating unit	Threadgill Roy Nov
Millfield modernization triples mean	Intercommunication system, Nov 126	Wadleigh, F. R
hourly output. F. G. Smith	Jacks	Young, John M
plant as part of modernization pro-	Loader, box-car*179	Toung, bonn Marris Marr
gram*148	Locator 180	Ohio Coal Control Assn.
	Locomotive, diesel, Oct*113 Mortar liquid, Oct	Officers elected
	Oiler, Nov	
N	Paint, heat-indicating	Oil Burners
	Pillow block*43, *236, *389	Illinois Mineral Industries discusses oil
National Bituminous Coal Commission	Pipe clamp*179 Pipe fittings*345	burners, Nov 114
Classification hearing 373	Pipe threader, Nov*126	
Classification and price hearings, Nov *106	Pulley, magnetic	P
Commissioners take oath	Pump, centrifugal	•
District boards organized and code pro-	Pump, two-stage, Oct	Present Channel
mulgated 341	Pughbutton Oct	Personal Changes
Mr. Hosford's sound doctrine (e) Nov 46 National Assn. of Purchasing Agents to	Rail splicer, Oct. *113 Reflectors 346	Adams, Joseph, Sept
cooperate in statistics, Sept 99	Regulator*180	Aikens, Charles
Price fixing speeded, Dec 174	Regulator, feed-water, Oct	Amick W H
Proceedings for price fixing, Sept 84	Respirator43, 346	Andones Tloud
National Coal Association	Roofing, channel, Oct	Anderson, N. J. 39 Andrews, Orville, Nov. 96 Armstrong, R. T. Dec. 166 Arthur J. W. 386 Ashbrook, M. M. 297
Committees on public and government	Scale indicator, Sept*101	Armstrong, R. T., Dec.
relations has been renamed, Dec 176	Scraper 390	Arthur J. W 386
Engineering department set up in charge	Screen, vibrating*140	Ashbrook, M. M
of C. A. Reed*30	Screw take-up	Auchmuty, R. Laird
Market promotion campaign for bitu- minous coal	Shovel control	Ball, Clayton G 229
minous coal	Thrust collar	Banta, Walter L 297
Report of Pittsburgh meeting, Nov	Tractor scraper, Sept*101	Barnes, Dr. C. A
Research and marketing emphasized at Pittsburgh convention, Nov 67	Tractors*139	Barry, R. H., Oct 88
To tabulate jobless, Dec	Truck*346 Truck bodies*139, *390	Bass, Lawrence 97
	Typewriter	Bayfield, William W
National Safety Council	V-belt, Nov. 126 V-belt drives *180	Polohow D D Nov
Mining Section leaders elected, Nov 100	V-belt drives	Bell, Charles 297
Mining Section meeting at Kansas City, Nov	V-belt fasteners, Nov*126 Vibrator*44, *140	Bell, W. A 297 Bently J G Sept
NOV	Vulcanizer	Berry, Richard
National Silicosis Conference	Washer punch 389	Bell, Charles 297 Bell, W. A. 297 Bently, J. G., Sept. 88 Berry, Richard 135 Bird, Byron 40
Report of Washington meeting 136	Welders*235 Welding electrode236, 390	Blackwell, Eugar, Oct 88
Report of Washington meeting	Wire stripper 389	Blair, Taylor
Natural Gas		Bonnyman, Alexander 297
Natural Gas Pennsylvania natural gas lines attacked		Bonnyman, Alexander 297 Bonyngham, William H 229
Natural Gas Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association	Bonnyman, Alexander 297 Bonyngham, William H 229
Pennsylvania natural gas lines attacked	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct 88
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Oct. 88 Brannon, George 40
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwoord 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E. Get. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, W. W 97
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept 102 Bearing layouts, Sept 102 Bearings, ball 179 Bet carrier, Sept *102	New River Coal Operators' Association Instructions issued for New River Coal, 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 135
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 135
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept 102 Bearing layouts, Sept 102 Bearings, ball 179 Belt carrier, Sept *102 Belt, elevator 44 Belt, elevator 346 Belt, elevator 346	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 185 Bowen, E. Oct. 88 Brannon, George 40 Bratton, E. W. 235 Brewer, Ed. 135 Brewer, W. W. 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept 102 Bearing layouts, Sept 102 Bearings, ball 179 Belt carrier, Sept *102 Belt, elevator 44 Belt, elevator 346 Belt, elevator 346	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 185 Bowen, E. Cct 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed 135 Brewer, W. W 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept 102, *390 Bearing layouts, Sept 102 Bearings, ball 179 Belt carrier, Sept *102 Belt, elevator 44 Bet hooks 346 Bracket, wire *345 Bucket, clamshell, Oct *113 Bucket, elevator Sept *102	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 185 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept 102, *390 Bearing layouts, Sept 102 Bearings, ball 179 Belt carrier, Sept *102 Belt, elevator 44 Bet hooks 346 Bracket, wire *345 Bucket, clamshell, Oct *113 Bucket, elevator Sept *102	New River Coal Operators' Association	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, George 386 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept. 102, *102 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct. *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct. *114 Carrier, conveyor belt. *140 Caulking compound. Sept. 102	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Sliicosis — aluminum dust mixed with silica dust prevents silicosis in the lungs 1366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete 122 Coal sampling is a problem, Oct 47	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E. Gct. 88 Brannon, George 40 Bratton, E. W. 335 Brewer, Ed. 135 Brewer, W. W. 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. I. 40 Burke, Dr. Stephen P., Sept. 88
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct *114 Carrier, conveyor belt. *140 Caulking compound, Sept. 102 Chain *43	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, W. W. 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, George 386 Brown, George 97 Bryson, W. D. Oct 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr., Stephen P., Sept 88
Pennsylvania natural gas lines attacked by anthracite man 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct *114 Carrier, conveyor belt *140 Caulking compound, Sept. 102 Chaln *43 Clamp, straight-line *180 Clamp, suspension *345	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, W. W. 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, George 386 Brown, George 97 Bryson, W. D. Oct 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr., Stephen P., Sept 88
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct. *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct. *114 Carrier, conveyor belt. *140 Caulking compound, Sept. 102 Chaln *43 Clamp, straight-line *180 Clamp, suspension *345 Clutch *345	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnyman, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct. 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr., Stephen P., Sept. 88
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct. *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct. *114 Carrier, conveyor belt. *140 Caulking compound, Sept. 102 Chaln *43 Clamp, straight-line *180 Clamp, suspension *345 Clutch *345	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnyman, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct. 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr., Stephen P., Sept. 88
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 173 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct *114 Carrier, conveyor belt *140 Caulking compound, Sept. 102 Chain *43 Clamp, straight-line *180 Clamp, suspension *345 Coatings, Nov. *246 Compressor, air, Nov. *126	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwoord 40, 185 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Browles, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. L 40 Burke, Dr. Stephen P, Sept 88 Burnett, Fred 135, 173 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov. 96
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct *114 Carrier, conveyor belt *140 Caulking compound, Sept. 102 Chain *43 Clamp, straight-line *180 Clamp, suspension 345 Clutch *346 Coatings, Nov. 126 Compressor, air, Nov *126 Compressor control 390 Compressors Sept. 102 *236	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwoord 40, 185 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Browles, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. L 40 Burke, Dr. Stephen P, Sept 88 Burnett, Fred 135, 173 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov. 96
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Belt carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct *113 Bucket, elevator, Sept. *102 Buggy, pneumatic-tired, Oct *114 Carrier, conveyor belt *140 Caulking compound, Sept. 102 Chain *43 Clamp, straight-line *180 Clamp, suspension 345 Clutch *346 Coatings, Nov. 126 Compressor, air, Nov *126 Compressor control 390 Compressors Sept. 102 *236	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwoord 40, 185 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Browles, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. L 40 Burke, Dr. Stephen P, Sept 88 Burnett, Fred 135, 173 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov. 96
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwoord 40, 185 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Browles, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. L 40 Burke, Dr. Stephen P, Sept 88 Burnett, Fred 135, 173 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov. 96
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwoord 40, 185 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Browles, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. L 40 Burke, Dr. Stephen P, Sept 88 Burnett, Fred 135, 173 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov. 96
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Sliicosis — aluminum dust mixed with silica dust prevents silicosis in the lungs. 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete. 122 Coal sampling is a problem, Oct. 974 Concentration of dust in air during driving of rock headings. 122 Cutter and loader units. 9287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study 162 Steam trucks restricted 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water 23 India—Causes of roof break, Sept. 972 U.S.R.—Blast furnace dust mixed with	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J D., Jr 229 Booth, Elwood 40, 135 Bowen, E. Gct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 125 Brewer, Ed. 125 Brewer, W. W 97 Brookes, J. Allan 135 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George 88 Brown, George 187 Bryson, W. D., Oct. 88 Bubb, H. 335 Buller, E. L. 40 Burke, Dr. Stephen P, Sept. 88 Burlas, John A 40 Burnus, W. M 386 Butler, Thomas H 35 Butzard, Ray 173 Burrus, W. M 386 Butler, Thomas H 385 Butzard, Ray 173 Cabell, C. A. Nov 96 Cain, Frank D., Sept. 88 Calwert, Barney 135 Campbell, L. C 97 Canterbury, A. B., Sept. 88 Carmody, John M 135 Carney, C. T. 335 Carney, C. T. 335 Carney, C. T. 335 Carney, C. T. 385
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Beit carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct. *113 Bucket, clevator, Sept. *102 Buggy, pneumatic-tired, Oct. *114 Carlier, conveyor beit. *140 Caulking compound, Sept. 102 Chain *43 Clutch *345 Clutch *346 Coatings, Nov. 126 Compressor, air, Nov. 126 Compressor, air, Nov. 126 Compressor control 390 Control, pump, Oct. 113 Control, vari-speed, Oct. 113 Conveyor beit carrier, Nov. *125 Copper coating 44 Coupler for mine-car, Nov. *125	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W. 335 Brewer, Ed. 135 Brewer, W. W. 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, George 386 Brown, George 386 Brown, George P. 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. I. 40 Burrus, John A. 40 Burrus, John A. 40 Burrus, W. M. 386 Butler, Thomas H. 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Campbell, L. C. 97 Cantrody, John M. 135 Carrodl, P. F., Oct 88 Carroll, P. F., Oct 88
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Beit carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct. *113 Bucket, clevator, Sept. *102 Buggy, pneumatic-tired, Oct. *114 Carlier, conveyor beit. *140 Caulking compound, Sept. 102 Chain *43 Clutch *345 Clutch *346 Coatings, Nov. 126 Compressor, air, Nov. 126 Compressor, air, Nov. 126 Compressor control 390 Control, pump, Oct. 113 Control, vari-speed, Oct. 113 Conveyor beit carrier, Nov. *125 Copper coating 44 Coupler for mine-car, Nov. *125	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. I. 40 Burras, John A 40 Burrus, W. M. 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Carnedy, John M. 135 Carney, C. T. 335 Carroll, P. F., Oct 88 Casey, Frank, Set. 88 Casey, Frank, Set. 88
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Beit carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct. *113 Bucket, clevator, Sept. *102 Buggy, pneumatic-tired, Oct. *114 Carlier, conveyor beit. *140 Caulking compound, Sept. 102 Chain *43 Clutch *345 Clutch *346 Coatings, Nov. 126 Compressor, air, Nov. 126 Compressor, air, Nov. 126 Compressor control 390 Control, pump, Oct. 113 Control, vari-speed, Oct. 113 Conveyor beit carrier, Nov. *125 Copper coating 44 Coupler for mine-car, Nov. *125	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. I. 40 Burras, John A 40 Burrus, W. M. 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Carnedy, John M. 135 Carney, C. T. 335 Carroll, P. F., Oct 88 Casey, Frank, Set. 88 Casey, Frank, Set. 88
Pennsylvania natural gas lines attacked by anthracite man. 173 New equipment 102, *390 Bearing, Sept. 102, *390 Bearing layouts, Sept. 102 Bearings, ball 179 Beit carrier, Sept. *102 Belt, elevator 44 Belt hooks 346 Bracket, wire *345 Bucket, clamshell, Oct. *113 Bucket, clevator, Sept. *102 Buggy, pneumatic-tired, Oct. *114 Carlier, conveyor beit. *140 Caulking compound, Sept. 102 Chain *43 Clutch *345 Clutch *346 Coatings, Nov. 126 Compressor, air, Nov. 126 Compressor, air, Nov. 126 Compressor control 390 Control, pump, Oct. 113 Control, vari-speed, Oct. 113 Conveyor beit carrier, Nov. *125 Copper coating 44 Coupler for mine-car, Nov. *125	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. I. 40 Burras, John A 40 Burrus, W. M. 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Carnedy, John M. 135 Carney, C. T. 335 Carroll, P. F., Oct 88 Casey, Frank, Set. 88 Casey, Frank, Set. 88
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. I. 40 Burras, John A 40 Burrus, W. M. 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Carnedy, John M. 135 Carney, C. T. 335 Carroll, P. F., Oct 88 Casey, Frank, Set. 88 Casey, Frank, Set. 88
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnyman, William H 229 Boone, J D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Oct 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed 135 Brewer, Ed 135 Brewer, W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W D., Oct 88 Bubb, H 335 Bubb, H 335 Buller, E. L. 40 Burke, Dr., Stephen P., Sept 88 Butlas, John A 40 Burrus, W 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carnody, John M 125 Carney, C. T 335 Carney, C. T 335 Carney, Frank E., Sept 88 Casey, Frank E., Sept 88 Casey, Frank E., Sept 88 Clark, J. T., Oct 88 Cline G. E., Sept 88 Sept 88 Cline G. E., Sept 88 Clark J. T., Oct 88 Calvert J. T. Oct 88 Calv
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D. Oct. 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept. 88 Butler, Fred 135 173 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A. Nov 96 Cain, Frank D., Sept. 88 Calvert, Barney 135 Canney, C. T. 325 Carnedy, John M 135 Carney, C. T. 325 Carnedy, John M 135 Carney, C. T. 325 Carnell, P. F., Oct. 88 Calcart, J. H. 386 Casey, Frank E., Sept. 88 Calcart, J. T., Oct. 88 Coleman C. G. 997 Contrane, Walter, Oct. 89 Coleman C. G. 997 Contrane, Walter, Oct. 89 Coleman C. G. 997 Contrane, Walter, Oct. 89 Coleman C. G. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 997 Canter C. G. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 9
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Cct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D. Oct. 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept. 88 Butler, Fred 135 173 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A. Nov 96 Cain, Frank D., Sept. 88 Calvert, Barney 135 Canney, C. T. 325 Carnedy, John M 135 Carney, C. T. 325 Carnedy, John M 135 Carney, C. T. 325 Carnell, P. F., Oct. 88 Calcart, J. H. 386 Casey, Frank E., Sept. 88 Calcart, J. T., Oct. 88 Coleman C. G. 997 Contrane, Walter, Oct. 89 Coleman C. G. 997 Contrane, Walter, Oct. 89 Coleman C. G. 997 Contrane, Walter, Oct. 89 Coleman C. G. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 997 Canter C. G. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 997 Canter C. T. 9
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Sliicosis — aluminum dust mixed with silica dust prevents sili- cosis in the lungs. 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete. 122 Coal sampling is a problem, Oct. 74 Concentration of dust in air during driving of rock headings. 122 Cutter and loader units. 287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study. 162 Steam trucks restricted. 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water. 23 India—Causes of roof break, Sept. 72 U.S.R.—Blast furnace dust mixed with coking coal and coke. 366 Setting fire to mines to make gas. 216 Wales—Silicosis in the coal regions. 324 Obituary Aldridge, Abner B., Oct. 90 Allais, A. L., Nov. 84 Armstrong, John T. 99 Barrington, Walter D. 388	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Gct. 88 Brannon, George 40 Bratton, E. W. 335 Brewer, Ed. 135 Brewer, Ed. 135 Browner, M. L., Oct. 88 Brown, A. L., Oct. 88 Brown, David P. 135 Brown, George 386 Brown, George P. 97 Bryson, W. D., Oct. 88 Bulbb, H. H. 335 Buller, E. I. 40 Burlas, John A. 40 Burrus, Dr. Stephen P., Sept. 88 Burlas, John A. 40 Burrus, W. M. 386 Butler, Thomas H. 335 Buzzard, Ray 173 Cabell, C. A., Nov. 96 Cain, Frank D., Sept. 88 Calvert, Barney 135 Carney, C. T. 335 Carreoll, P. F., Oct.
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Oct 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D. Oct 88 Bubb, H. H 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept 88 Butlas, John A 40 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A. Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carrody, John M 135 Carroll, P. F., Oct 88 Casey, Frank, Sept 88 Calcark, J. T., Oct 88 Clark, J. T., Oct 88 Cooper, Robert 100 Canter 100
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Silicosis — aluminum dust mixed with silica dust prevents sili- cosis in the lungs 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete 122 Coal sampling is a problem, Oct. 74 Concentration of dust in air during driving of rock headings 122 Cutter and loader units 287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study 162 Steam trucks restricted 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water 23 India—Causes of roof break, Sept 77 U.S.R.—Blast furnace dust mixed with coking coal and coke 366 Setting fire to mines to make gas 216 Wales—Silicosis in the coal regions 324 Obituary Aldridge, Abner B., Oct 90 Allais, A. L., Nov 84 Armstrong, John T. 99 Barrington, Walter D. 388 Bonnyman, James 230 Brown David A. Dec 172	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Oct 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D. Oct 88 Bubb, H. H 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept 88 Butlas, John A 40 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A. Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carrody, John M 135 Carroll, P. F., Oct 88 Casey, Frank, Sept 88 Calcark, J. T., Oct 88 Clark, J. T., Oct 88 Cooper, Robert 100 Canter 100
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Oct 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D. Oct 88 Bubb, H. H 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept 88 Butlas, John A 40 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A. Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carrody, John M 135 Carroll, P. F., Oct 88 Casey, Frank, Sept 88 Calcark, J. T., Oct 88 Clark, J. T., Oct 88 Cooper, Robert 100 Canter 100
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Silicosis — aluminum dust mixed with silica dust prevents silicosis in the lungs 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete 122 Coal sampling is a problem, Oct. •74 Concentration of dust in air during driving of rock headings 122 Cutter and loader units. •287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study 162 Steam trucks restricted 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water 23 India—Causes of roof break, Sept. •72 U.S.S.R.—Blast furnace dust mixed with coking coal and coke 366 Setting fire to mines to make gas 216 Wales—Silicosis in the coal regions 324 Obituary Aldridge, Abner B., Oct. 90 Allais, A. L., Nov. 84 Armstrong, John T. 99 Barrington, Walter D 388 Bonnyman, James 230 Brown, David A., Dec 172 Brown, Robert L 295 Bryant, Herman 137	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Oct 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D. Oct 88 Bubb, H. H 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept 88 Butlas, John A 40 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A. Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carrody, John M 135 Carroll, P. F., Oct 88 Casey, Frank, Sept 88 Calcark, J. T., Oct 88 Clark, J. T., Oct 88 Cooper, Robert 100 Canter 100
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Silicosis — aluminum dust mixed with silica dust prevents silicosis in the lungs 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete 122 Coal sampling is a problem, Oct. •74 Concentration of dust in air during driving of rock headings 122 Cutter and loader units. •287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study 162 Steam trucks restricted 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water 23 India—Causes of roof break, Sept. •72 U.S.S.R.—Blast furnace dust mixed with coking coal and coke 366 Setting fire to mines to make gas 216 Wales—Silicosis in the coal regions 324 Obituary Aldridge, Abner B., Oct. 90 Allais, A. L., Nov. 84 Armstrong, John T. 99 Barrington, Walter D 388 Bonnyman, James 230 Brown, David A., Dec 172 Brown, Robert L 295 Bryant, Herman 137	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E. Oct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed 185 Brewer, Ed 185 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. I. 40 Burke, Dr. Stephen P., Sept 88 Butlas, John A 40 Burrus, W. M 386 Butler, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 38 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carroll, P. F., Oct 88 Cark, J. T., Oct 88 Cark, J. T., Oct 88 Cooker, Robert 88 Cooker, J. H. 386 Cooker, Sept 88 Cooker, J. H. 386 Cooker, J. Doct 88 Cooker, J. H. 386 Cooker, Sept 88 Cooker, J. H. 386 Cooker, J. T., Oct 88 Cooker, J. Doct 88 Cooker, J. Doct 88 Cooker, Sept 88 Cooker, J. T., Oct 88 Cooker, J. Doct 89 Cooker, J. Doct 86 Cooker, J. Doct
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Silicosis — aluminum dust mixed with silica dust prevents silicosis in the lungs 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete 122 Coal sampling is a problem, Oct. •74 Concentration of dust in air during driving of rock headings 122 Cutter and loader units. •287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study 162 Steam trucks restricted 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water 23 India—Causes of roof break, Sept. •72 U.S.S.R.—Blast furnace dust mixed with coking coal and coke 366 Setting fire to mines to make gas 216 Wales—Silicosis in the coal regions 324 Obituary Aldridge, Abner B., Oct. 90 Allais, A. L., Nov. 84 Armstrong, John T. 99 Barrington, Walter D 388 Bonnyman, James 230 Brown, David A., Dec 172 Brown, Robert L 295 Bryant, Herman 137	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E. Oct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed 185 Brewer, Ed 185 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. I. 40 Burke, Dr. Stephen P., Sept 88 Butlas, John A 40 Burrus, W. M 386 Butler, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 38 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carroll, P. F., Oct 88 Cark, J. T., Oct 88 Cark, J. T., Oct 88 Cooker, Robert 88 Cooker, J. H. 386 Cooker, Sept 88 Cooker, J. H. 386 Cooker, J. Doct 88 Cooker, J. H. 386 Cooker, Sept 88 Cooker, J. H. 386 Cooker, J. T., Oct 88 Cooker, J. Doct 88 Cooker, J. Doct 88 Cooker, Sept 88 Cooker, J. T., Oct 88 Cooker, J. Doct 89 Cooker, J. Doct 86 Cooker, J. Doct
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Silicosis — aluminum dust mixed with silica dust prevents silicosis in the lungs 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete 122 Coal sampling is a problem, Oct. •74 Concentration of dust in air during driving of rock headings 122 Cutter and loader units. •287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study 162 Steam trucks restricted 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water 23 India—Causes of roof break, Sept. •72 U.S.S.R.—Blast furnace dust mixed with coking coal and coke 366 Setting fire to mines to make gas 216 Wales—Silicosis in the coal regions 324 Obituary Aldridge, Abner B., Oct. 90 Allais, A. L., Nov. 84 Armstrong, John T. 99 Barrington, Walter D 388 Bonnyman, James 230 Brown, David A., Dec 172 Brown, Robert L 295 Bryant, Herman 137	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Gct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, Ed. 135 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P. 97 Bryson, W. D., Oct. 88 Brown, George P. 37 Bryson, W. D., Oct. 88 Bubb, H. 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept. 88 Burlas, John A. 40 Burrus, W. M. 336 Butler, Thomas H. 335 Buzzard, Ray 173 Cabell, C. A., Nov. 96 Cain, Frank D., Sept. 88 Calvert, Barney 135 Campbell, L. C. 97 Canterbury, A. B., Sept. 88 Carney, C. T. 335 Carler, J. H. 386 Casey, Frank, Sept. 88 Chapman, Z. B., Sept. 88 Cochrane, Walter, Oct. 88 Cochrane, Walter, Oct. 88 Cornett, J. T., Oct. 88 Cornett, Denver B. 97 Cosgrove, J. Choc. 166 Cook, W. F., Sept. 88 Cooker, Samuel, Oct. 88 Cowley, Samuel, Nov. 96 Criss, S. C. W. 173, 386 Criss, C. W. 173, 386 Criss, S. C. W. 173, 386 Criss, S. C. W. 173, 386 Cri
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J. D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Oct 38 Brannon, George 40 Bratton, E. W 335 Brewer, Ed 185 Brewer, W. W 97 Brookes, J. Allan 125 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept 88 Butlas, John A 40 Burrus, W. M 386 Butter, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Campbell, L. C 97 Canterbury, A. B., Sept 88 Carnody, John M 135 Carnody, John M 135 Carnoll, P. F., Oct 88 Casey, Frank E., Sept 88 Clark, J. T., Oct 88 Cooke, W. F., Sept 88 Coleman, C. G. 297 Combs, J. I., Dec 166 Cook, W. F., Sept 88 Coornert, Denver B. 97 Cosgrove, J. C., Dec 166 Costner, T. E., Oct 88 Criss, S. C. 97 Crosgrone, D. A. 40 Crosgrone, D. A. 40 Crosgrone, D. A. 40 Crosgrone, J. C. 166 Cornert, S. C. 173 386 Criss, S. C. 173 386 Crosgrone, D. A. 40 Crogan D. A. 40 Creman C. G. 97 Crogan D. A. 40 Crogan D
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonnynham, William H 229 Boone, J. D., Jr. 229 Booth, Elwood 40, 135 Bowen, E., Gct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, W. W 97 Brookes, J. Allan 135 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct. 88 Bubb, H. H. 335 Buller, E. I. 40 Burke, Dr. Stephen P., Sept. 88 Buller, E. T. 40 Burrus, W. M. 336 Butler, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept. 88 Calvert, Barney 135 Carnoly, John M 135 Carney, C. T 335 Carney, C. T. 335 Carney, C. T. 386 Carler, J. H. 386 Clark, Claude 185 Clark, J. T., Oct. 88 Clark, Claude 185 Cooker, Rept. 88 Clark, Claude 185 Cooker, Sept. 88 Clark, J. T., Oct. 88 Cooker, Rept. 88 Cooker, Rept. 88 Cooker, Samuel, Oct. 88 Cooker, Samuel, Oct. 88 Cooker, Samuel, Oct. 88 Cories, Samuel, Nov. 96 Cries, Samuel, Nov. 96 Cries, S. C. 173 Crogan, D. H., Sept. 88 Corgan, D. H., Sept. 88 Corpert. 297 Corgan, D. H., Sept. 88 Carley, C. W. 173, 386 Cries, C. W
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Gct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, Ed. 135 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct. 88 Brown, George P 97 Bryson, W. D., Oct. 88 Bulber, E. L. 40 Burke, Dr. Stephen P, Sept. 88 Buller, E. I. 40 Burrus, W. M. 335 Burrus, W. M. 336 Butler, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept. 88 Calvert, Barney 135 Carneyl, C. T. 335 Carneyl, C. T. 325 Carneyl, C. T. 326 Carney, C. T. 326 Carter, J. H. 386 Casey, Frank, Sept. 88 Chapman, Z. B., Sept. 88 Clark, Claude 125 Clark, J. T., Oct. 88 Cochrane, Welter, Oct. 88 Cochrane, Welter, Oct. 88 Cochrane, George 88 Cochrane, Welter, Oct. 88 Cochrane, Sept. 88 Cochrane, George 8
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Gct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, E. M 135 Brewer, E. M 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept 88 Burlas, John A 40 Burrus, W. M 336 Butler, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Carneylell, L. C 97 Canterbury, A. B., Sept 88 Carney, C. T 335 Carney, C. T. 325 Carney, C. T. 325 Carled, Frank E., Sept 88 Chedsey, William R., Sept 88 Chark, Claude 125 Clark, J. T., Oct 88 Cochrane, Welter, Oct 88 Cooper, Robert 88 Cooper, Robert 88 Connert, J. L., Dec 166 Coskroy, J. C., Dec 166 Coskroy, J. C., Dec 166 Coskroy, J. C., Dec 166 Coskroy, Samuel, Nov 96 Crews, C. W 173 386 Crogan, D. A., Sept 88 Conningham, O. A., Sept 88 Conningham, O. A., Sept 88 Counningham, O. A., Sept 88 Counningham, O. A., Sept 88 Counningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Canney, C. M., Sept 386 Canningham, O. A., Sept 386 Canney, C. M., Sept 386 Canningham, O. A., Sept 386 Canney, C. M., Sept 386 Canney,
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov. 112 Officers elected 40 Notes from Across the Sea Belgium—Experiments on methane in coal 122 Canada — Sliicosis — aluminum dust mixed with silica dust prevents silicosis in the lungs 366 Germany—Artificial resin of fine coal and phenol 366 Great Britain—Coal in concrete 122 Coal sampling is a problem, Oct. 74 Concentration of dust in air during driving of rock headings 122 Cutter and loader units 287 Electric picker with thermionic valve 366 Methane emitted from coal per ton raised 162 Mine dust collection for study 162 Steam trucks restricted 366 Study of rock dust for extinguishing a mild damp mine explosion, Nov. 72 Washing coal with dirty water 23 India—Causes of roof break, Sept 72 U.S.R.—Blast furnace dust mixed with coking coal and coke 366 Setting fire to mines to make gas 216 Wales—Silicosis in the coal regions 324 Obituary Aldridge, Abner B., Oct. 90 Allais, A. L., Nov. 84 Armstrong, John T. 99 Barrington, Walter D 388 Bonnyman, James 230 Brown, David A., Dec 172 Brown, Robert L 295 Bryant, Herman 137 Carter, George L 98 Cartildge, Oscar 344 Chance, H. M. 137 Connery, John T 347 Downey, George Faber 99 Drinker, Dr. Henry, Sept 99 Eddy, Joseph Dickson, Dec 172 Fine, Andrew M. 230 Holmes, John T. 99 Eddy, Joseph Dickson, Dec 172 Fine, Andrew M. 230	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Gct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, E. M 135 Brewer, E. M 97 Brookes, J. Allan 135 Brown, A. L., Oct 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct 88 Bubb, H. H. 335 Buller, E. L. 40 Burke, Dr. Stephen P., Sept 88 Burlas, John A 40 Burrus, W. M 336 Butler, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept 88 Calvert, Barney 135 Carneylell, L. C 97 Canterbury, A. B., Sept 88 Carney, C. T 335 Carney, C. T. 325 Carney, C. T. 325 Carled, Frank E., Sept 88 Chedsey, William R., Sept 88 Chark, Claude 125 Clark, J. T., Oct 88 Cochrane, Welter, Oct 88 Cooper, Robert 88 Cooper, Robert 88 Connert, J. L., Dec 166 Coskroy, J. C., Dec 166 Coskroy, J. C., Dec 166 Coskroy, J. C., Dec 166 Coskroy, Samuel, Nov 96 Crews, C. W 173 386 Crogan, D. A., Sept 88 Conningham, O. A., Sept 88 Conningham, O. A., Sept 88 Counningham, O. A., Sept 88 Counningham, O. A., Sept 88 Counningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Couningham, O. A., Sept 88 Daniels, G. R. 386 Canney, C. M., Sept 386 Canningham, O. A., Sept 386 Canney, C. M., Sept 386 Canningham, O. A., Sept 386 Canney, C. M., Sept 386 Canney,
Pennsylvania natural gas lines attacked by anthracite man	New River Coal Operators' Association Instructions issued for New River Coal, Nov	Bonnyman, Alexander 297 Bonyngham, William H 229 Boone, J D., Jr 229 Booth, Elwood 40, 135 Bowen, E., Gct. 88 Brannon, George 40 Bratton, E. W 335 Brewer, Ed. 135 Brewer, Ed. 135 Brewer, Ed. 135 Brown, A. L., Oct. 88 Brown, David P 135 Brown, George 386 Brown, George P 97 Bryson, W. D., Oct. 88 Brown, George P 97 Bryson, W. D., Oct. 88 Bulber, E. L. 40 Burke, Dr. Stephen P, Sept. 88 Buller, E. I. 40 Burrus, W. M. 335 Burrus, W. M. 336 Butler, Thomas H 335 Buzzard, Ray 173 Cabell, C. A., Nov 96 Cain, Frank D., Sept. 88 Calvert, Barney 135 Carneyl, C. T. 335 Carneyl, C. T. 325 Carneyl, C. T. 326 Carney, C. T. 326 Carter, J. H. 386 Casey, Frank, Sept. 88 Chapman, Z. B., Sept. 88 Clark, Claude 125 Clark, J. T., Oct. 88 Cochrane, Welter, Oct. 88 Cochrane, Welter, Oct. 88 Cochrane, George 88 Cochrane, Welter, Oct. 88 Cochrane, Sept. 88 Cochrane, George 8

11	00.1202	
Davin, John 297	Lively. F. B 298	Snure, J. J., Nov
Davis Ira F 297	Lively, F. B. 298 Livingston, Harry C., Oct. 88 Lockhart, F. B., Nov. 96 Lombardi, Vincent C. 336 330 330	Snyder, F. B., Dec
Day, H. J. 230 Deal, Stanley, Dec. 166, 386 DeBardeleben, Henry T. 336	Lombardi, Vincent C. 336 Long, Lee	Stephens E E Dec
DeBardeleben, Henry T	Long, Lee 230 Lowe, William, Sept. 90	Stith, Hugh, Nov. 96 Stone, George W., Oct. 90 Stout, F. O., Sept. 90 Sullivan, D. R. 174 Swain, Frank T. 40
Dorrance, Charles 229		Stout, F. O., Sept
Dover, William 336 Dryer, T. B. 336	Machin, Hugo, Oct 88 Maier, Joseph, Sept 90, 174, 336 Mann, Carl P 40 Marchant, H. C., Oct 88	Swecker, R. E
Duffy, James P	Marchant, H. C., Oct	Tabor, D. E., Oct
Duffy, James P. 97 Ellis, Wayne P. 386 Evaneff, Mike 97 Evans, Cadwallader 297	Marsh, F. A	Therefore March 997
Evans, Cadwallader	Moreh T A 135	Thompson, W. C., Dec
Ewing, Earl 135 Fearn, Lyman 336 Feathers, Howard A., Oct 88	Marshall, A. F., Sept. 90 Marshall, A. M. 336 Marshall, R. M. 298 Martin, D. W. 135	Taylor, Mack
Ferguson, Henry, Sept	Martin, D. W	Tompkins, Harold P
Ferrell, Emit 299 Ferrell, L. E 297 Fields, Floyd 40	Martin, James 40 Martin, John H., Dec. 172 Martin, Matthew, Sept. 90	Tuggle P E 40
Fies. Milton H 135	Mather, T. W	Tunsburg, Henry 298 Vaughn, I. E., Oct 90 Via, G. E. 298
Fies, Milton, Dec		Via, G. E
Finn, E. E 40	Maynor, Cecil 288	Vickers, Ray 136 Waddell, G. R., Oct 90 Wade, S. H. 30
Fleming Brooks Jr. Oct 88	McDonald, C. J	Wade, S. H
Flynn, Robert, Sept. 90 Ford, William 40 Franklin, O. J., Sept. 90	McGreavy, John	Walker, A. J
Galter. Baxter	McLelelan, George N., Sept 90	Wade, S. H. Waldman, Arthur 136, 336 Walker, A. J 338 Walker, J. W. 387 Walsh, W. H. 136 Watts, A. C., Oct. 90 Weimer, E. J. 136, Oct. 88 Welch, J. A., Sept. 90 West, M. R. 230 West, R. T. 298 White, E. M. 40
Gallagher, Charles 173 Gammeter, E. 173	McLelelan, George N., Sept. 90 McLinden, Peter F. 135 McMurrer, P. D. 135	Weimer, E. J
Gandy, Harry L 386	37 37 11 9771111	Welch, J. A., Sept
Garda, John A. Jr	McNail, William McNulty, I. D., Oct., 88, Dec. 166 McPherson, W. M., Oct. 88, 336 McQuail, W. E., Oct. 88 Meadows, J. A. 40 Metzger, W. G. 97 Miller, I. W. 336 Mills, Hubert E., Sept. 88 Mitchell, L. W., Dec. 166, 336 Money, Carl	
Gardner, Charles	McQuail, W. E., Oct	White Innome C 987
Garrett, C. R	Metzger, W. G	Willet, J. L., Oct. 90 Williams, William J. Oct. 90, 98 Wilmoth, Laco 387 Wilshire, W. M., Oct. 98
Glenn, G. E 387	Mills, Hubert E., Sept	Wilmoth, Laco
Gore, Fred E	Mitchell, L. W., Dec	Wilson, Butler 230 Wilson, J. R., Nov 96 Winger, Leland, Dec 166
Graham, James W., Oct 88	Moore, V. J	
Grant, L. E., Dec. 166 Graves, J. F. 229 Gray, James C. 387	Money, Carl 174 Moore, V. J. 229 Montgomery, S. J. 174 Moser, M. M. 135 Moser, M. M. 135	Woods, L. E., Nov
Green, Doner 384	Murray, James E	
Greenwald, Harold P	Murray, Vernon O	Woods, L. S
Griffin. H. L. Oct 88	Noleon Elwood 336	Wright, Jack, Oct
Griffith, Arnold 336 Griggs, Herman M., Sept. 90 Grillos, Manuel 336	Nixon, Walter, Sept. 90 Nuelle, J. H. 170, 298 Nunn, W. D. 174	Yeager, George, Sept. 90 Yeager, Guy 98 Young, W. P. 136
Grimm. B. F 336	Nutter, H. P 135	Young, W. P
Gullett, G. G	O'Neale, M. L., Dec	
Hager, John W	Ostby, Oscar F	Power Generation
Hagy, G. W. 297 Hall, M. E., Dec. 166, 336 Hamburger, Ira 229	Pape, Delbert H., Oct 88	Auxier power plant meets haulage and pumping needs, Oct*63
Hardy, C. F	Park, Thomas 229 Parker, W. H., Nov. 96 Parker, W. H., Nov. 96	pumping needs, Oct
Hardy, C. F. 174 Harless, Fred 40, Nov. 96 Harper, George 135 Harriman, G. W. 336	Pauley. C. E	ments keep step with mechanization
Harrington, George B	Peltier, M. F	Glen White mine changes from gen-
Harvey, John	Perfater, William 40	erated power to purchased, Sept *47 Indiana Coal Mining Institute discusses
Heatherman, J. E., Sept. 90 Heller, William D. 229	Phillips. J. J	power plants
Helton, John, Dec	Pickelseimer, B. 98 Pierce, James H. 40, 387	washery and power plant*109 Power problems — American Mining
Helvey, J. C. 174 Hensley, V., Dec. 166 Herres, Otto 387	Pilcher, J. M	Power problems — American Mining Congress meeting
Hicks, Roy 97	Price, E. W., Oct	treatment. Bell & Zoller, Dec*142
Higginbotham, Harry 40	Pritchard, Henry	Steam-generating plants produce power more cheaply than average hydro
Hildreth, Lane W	Pritchard, Henry 98 Prudent, Eugene, Sr. 336 Prudent, Norman 98	station (e), Nov
Hillman, W. T., Oct. 88 Hilton, John 174 Hogan, R. P., Dec. 166, 98 Holdren, P. S. 161, 174 Honaker, H. R. 336 Hornre, J. H. 40 Howe, R. E., Oct. 88 Howenby, H. F. 336 Hubber, Charles F. 229	Pruitt, Arthur	d.c. and transmits power to another
Holdren, P. S	Pamage George 998	mine*239
Hornre, J. H	Ramsay, Erskine, Dec. 166, 174 Ratcliff, W. A. Nov. 96 Ratliff, Roy, Oct. 90 Rawn, A. B., Dec. 166	Preparation
Howenby, H. F	Ratliff, Roy, Oct	Anthracite cleaned before breaking to domestic sizes. G. H. Jones*145
	Raymond, John	Anthracite progress in 1936 53
Hughes, T. D. 174 Humphrey, E. P. 297 Humphries, K. F. 97 Huntress, Carroll B., Oct. 88, 97	Reed, C. A	Bell & Zoller's preparation plant, Dec. *94 Bituminous coal cleaning in 1935 and
Humphries, K. F	Reed, George W	Bituminous preparation gains in ca-
Husband, H. B	Reese, T. T. 229 Renner, R. B. 135 Reynolds, James T. Nov. 96 Rice, George S. Nov. 96	Boiler efficiencies are improved with
Ingle, William, Jr	Rice, George S. Nov. •96 Richardson, William, Jr. 336	cleaned coal
Jaap, Walter, Oct	Risko, John 229	Chain-mat rescreener introduced at new Harvey tipple*12
James, J. B 298	Ritter, E. E., Nov. 96 Roberts, Warren, Dec. 166 Robinson, A. M., Sept. 90 Poblingen, J. J. Sept. 90	Chieftain mine rescreener removes
Janey, J. O. Oct	Robinson, A. M., Sept. 90 Robinson, J. L. Sept. 90	Mining Institute
Johnston, J. M	Robinson, J. L., Sept. 90 Robson, W. M. 298 Roche, Josephine, Dec. *166 Roos, George A., Sept. 90	Cleaning in transit (e)
Jones, D. W 336	Roos, George A., Sept	Congress convention 267
Kane, C. O	Rosky, H. C	Consolidation Coal improves Millers Creek plant preparation facilities*321
Kendo, Mathew	Rowe, J. A	Developments discussed at Illinois meet- ing
Kennedy, Thomas, Sept 90	Sammons, Josh, Sept. 90 Samples, G. M., Dec. 166	Dewatering screen air lets in use at
Kennedy, William	Sandford, Edward 98	Amherstdale
Knill, R. R	Sandridge, Seth	Dust control more effective with higher
Koepler, W. E	Schrenk, Helmuth 135 Schwenebraten, Howard 230	viscosity oils, according to Bitumi- nous Research, Nov
La Mena, C. J. 135 Lamb, E. W. 387	Schwenebraten, Howard 230 Seller, G. W. 229 Shafer, Charles 135	
Lamb, E. W	Shafer, Charles	Builders' Show
LaRue, George, Sept. 90 LaSalle, Louis, Dec. 166, 98 LaViers, Harry 230	Shepherd, W. H. 336 Sherrill, Lawrence C. 387 Shoffner, Charles M. 40	at Wayland Nov
LaViers, Harry 230 Lawton, John, Sept. 90 Lea, Robert W. 336, 387	Sims, George 298	Glen Lyon breaker establishes clean- ing precedents. W. E. Weineck*205 Hanna's Willow Grove plant shows
Leany, George J	Sirockman, John 98 Sleppy, Byron W. 174	preparation emciency. I. A. Given,
Legg. W L	Smith Archie	Little John washes all coal after crush-
Leichty, James 387 LeMay, Ernest D. 298 Lilly, L. W., Oct 88	Smith, Frank 98 Smith, Harry A *298 Smith, Hewitt, Dec 166 Smith, R. C 98	ing*199 Little Sister strip mine is equipped with washery and power plant*109
Lindley, James, Dec. 166 Lipscomb, A. T. 174	Smith, R. C. 98 Smith, Roy	
Littlejohn, C. M	Smith, R. Templeton 98	plants. W. F. Barnes, Nov

New preparation facilities29, 96,	Roof control	Smoke abatement Illinois Mineral Industries discusses
133, 169, 224, 298, 330, 380, Sept. 94, Oct. 86, Nov. 94, Dec	Break in roof, not floor. H. T. Foster.	smoke tests, Nov
safety precautions	Caving chambers prevent water and gas from breaking roof. Anthony Shacikoski •7	Operators sue to enjoin St. Louis smoke law
research group at Battelle*228 Oil treatment lessens spontaneous heat-	C.M.I.A. studies timber rot and roof	St. Louis has smoke law
ing tendencies, Ambrose and Gaspari. *252	support 31 New roof treatment proves out at Southwestern mines. V. C. Robbins. 219	Smokeless Coal Operators' Assn. of W. Va.
Rachel mine constructs new prepara- tion plant as part of modernization	Salvaged track sand used to build	Officers elected 9
program*148 Reliance modernization keys mine to mechanization. C. E. Swann, Nov *69	roof supports	Southern Appalachian Coal Operators'
Ciac and impurity distribution in hing	American Mining Congress meeting. 264 Timbers removed safely from remote point. Bell & Zoller, Dec*140	Assn.
Slide gate in loading boom aids in	point. Bell & Zoller, Dec*140 Unsupported roof gives trouble (e) 2	Officers elected 4
—A.I.M.E. meeting		Southern Appalachian Industrial Exhibi- tion
gravity coal flow, Sept	S	Show is successful, Oct 8
Warm-air furnace improves heating in	Safety	Stabilization
West Virginia washing plant*220 West Virginia Coal Conference fore-	Auger shank twisted to promote safety. Bell & Zoller, Dec	Joint hard-coal group named at meet-
casts call for better cleaning, Nov 92	Barricading film saves lives. E. H. Denny	ing for stabilization plan, Dec 14
Prospecting	Bell & Zoller's safety methods, Dec*117	Steel
Prospecting drill made of auto truck parts*168	Calcium-chlorided roads (e)	J. T. Ryerson & Son offer steel plan, Oct
Pumps and Pumping	Colorado mines awarded safety hon- ors, Oct. 96	Stokers
Bell & Zoller's pumping and drainage.	Deduct the mine (e) Nov 45	Bin-feed stoker ready, Sept 8 Bituminous Coal Research studying
Corrosion (e), Oct 45	Derailer, Sept	stoker combustion problems, Sept 8. Chain-grate stoker has affected combus-
Extension pipe for pumping*289 Marvine double pumping station gives	Finding naws in tools	tion rates, Dec
flexibility	Fire extinguishing methods (e) 237 Guard chains and sprockets on cutter truck 88	heating with stoker exhibit, Oct *7 Illinois Mineral Industries discusses
ing. E. A. Smith, Oct	Guards stop derallment at track frogs,	stokers, Nov
erating economy. H. B. Samson*364 Suction strainer cleared by bypass line.*371	Health a defense from silicosis (e) 141	New down-draft burner for use in up-
Undercurrent relays protect centrifugal pumps, Sept	Holmes award given to Summit mine, Nov 112	draft stove or furnace, Nov*11: New home prospects should be culti-
	Holmes awards given to 34 mines 174 How sealing promotes safety discussed at Indiana Ceal Mining Institute 37	vated (e)
D	Indiana Coal Mining Institute discusses	New portable stoker out
R	Safety gains	Stream Pollution
Refuse disposal	win safety trephies	Acid mine water and other forms of
Hydraulic transportation cuts refuse- disposal costs at Amherst mine*114	promote efficiency and safety. C. E. Egeler, Oct	stream pollution—A.I.M.E. meeting. 123 Measures headed for a tangle 293
Old trailer car used for new refuse- disposal system at Nellis, Nov *78	Management's part discussed at Illi-	More stream pollution bills 99 Pennsylvania governor signs pollution
Rotary dump for handling slate at Gauley Mourtain*214	nois meeting 333 Manway safety gate, Oct. *78 Mechanization and safety (e), Sept. 46	bill
Regulation. See also Anthracite and Na-	Mechanization and safety (e), Sept 46 Mine fires discussed by Nova Scotla Mining Society 381	stream pollution. P. A. Fellows*158
tional Bituminous Coal Commission Anthracite regulation bills introduced	Mining Society	Stripping
in Congress 376	ing	Antharcite stripping practices at Merriam and other pits*242
Bituminous industry not united (e) 101 Black-Connery bill hearings 330	New records forecast for 1936 73 Oil spraying treatment of coal needs	Atlas stripping employs four-yard walk- ing dragline
British plan wins wide acceptance. Paul Wooton	safety precautions 387	1936 *75
Great Britain's decision on government	Old Ben No. 11 mine reopened and mechanized. I. A. Given	Little John mine uses improved strip- ping and preparation equipment. I.
ownership of mineral rights (e) 238 Guffey-Vinson bill reported to House 138	Operating economies through safety shown at National Safety Council meeting Nov. 98	A. Given*192
Guffey-Vinson Act, a stimulent or sed- ative? (e)	Potts Colliery modifies underground	washery and power plant*109 Mine to be converted into lake, Nov 98
Guffey-Vinsor bill passed in House 171 Guffey-Vinson bill passage (e) 181	dump to reduce dust output, Nov 75 Price of working dangerously is too high — American Mining Congress	Shovel-cable suspension facilitates handling*221
Guffey-Vinson coal bill signed by President 225	meeting 264	Small stripping units give flexibility and high output under Siepman plan. I.
Guffey-Vinson measure (e)	Reliability and safety (e)	A. Given*355 Streamline mine uses 26-yd. stripper
coordinate minimum prices for coal, Oct	aids production. J. L. Hamilton, pt. 1 *195; pt. 2	and 7-yd. loader to recover 6-ft. seam. I. A. Given, Sept
gets ready for business*293	Rocky Mountain Institute discusses safety*338	Tractor-powered scrapers speed strip- ping at Mid-Western mines*310
National Bituminous Coal Commission orders code members not to accept	Scranton's mine voids to be filled, Sept. •90 Sealing mines—A.I.M.E. meeting 129	ping at mid-western mines
delivery orders for more than 30 days, Oct	Service shall guarded when cage is	Supplies
National Bituminous Coal holds hear- ing on rules and regulations, Oct 104	down*89 Signal system to indicate fan opera-	Battery locometive to supply yard service, Sept
New Guffey coal measure presented 95 Operators name committee to frame	tion, Nov	Bell & Zoller's supply service, Dec*132 Cost of mine supplies in 1935 close to
legislation	Silicosis discussed at A.I.M.E. meeting	1929 average per ton. Tryon, Young and Berquist*250
Anthracite Coal Industry Commission, Nov. 83	Silicosis meeting at Washington 136 Skids reduce coal-cutting hazards. Bell	Pictures on bin cards reduce warehouse errors, Sept*78
_	& Zoller, Dec*146 Southern Wyoming Coal Operators	S
Research A.S.T.M. Syn.posium on Significance of	Assn. appoints safety engineer 100 Switch guarded by sheet-iron plate.	Surveying Setting sight lines with attachment*290
Tests of Coal	Nov	
Coal hydrogenation discussed by Divi- sion of Gas and Fuel Chemistry, Oct *98	wooden guard, Oct	T
Coal-research projects in progress or completed in 1936 or planned for	Trolley-wire guarded by hard-pressed board *164	
1937	Use of safety lamp discussed at Indiana meeting	Taxes Illinois gas tax sought
can Mining Congress convention 266 Director of Coal Research Laboratory	Ventilation system has warning signal	Soviet Union and U. S. make pact on lifting tax on Soviet coal, Sept 98
on world inspection tour	to show pressure drop*28 Works 78 years in mines without ac- cident	Unfair to restrict coal industry and not competitors (e)
Westport, Conn., Sept 99		Windfall tax on processors held valid 30 Taylor breaker to be reopened by Moffat
European coal research tour arranged by National Research Council	Sales agencies Southern West Virginia smokeless op-	Coal Co
The importance of research in the coal industry (e), Nov	erators form selling agency 169 Salt for the mine (e)	
N.C.A. convention emphasizes research and marketing, Nov. 67		Georgia's Power plea for stay denied 231
Oil treatment for dedusting studies by research group at Battelle*228	Seranton WPA funds sought for backfilling	Injunction appealed
University of Washington offers coal fellowships 302	Scranton's mine voids, Sept *90	Temporarily enjoined from extensions of power
Rocky Mountain Coal Mining Institute	Shafts	
Election of officers	Shaft retimbering at Centralia Coal Co. Dec. *144	Terre Haute Mine Foremen's Club Officers installed

U	
Union Pacific Old Timers' Assn. holds re- union and meet	376
United Mine Workers. See also Labor.	
Appalachian agreement	231
planned Illinois autonomy restored	$\begin{array}{c} 100 \\ 100 \end{array}$
Utah Coal Operators' Assn.	
Officers elected	230
Utilization	
A.S.T.M. Symposium on Significance of	
Tests of Coal	383
Anthracite for Arctic posts, Sept Anthrafilt to be used for filtering Okla-	•98
homa City water	223
Appalachian Coals, Inc., fuel engineeers discuss steam-coal marketing	227
Factors in coal acceptance discussed at Illinois meeting	335
Fourth Illinois Short Course in Coal Utilization	342
New automatic heat units for anthra- cite introduced	376
Possible uses for coal visioned by re-	
search	21
Promotional program for coal (e)	348
Residential heating research	333
v	
Ventilation	
Air current malevolent or helpful? (e)	142
Bell & Zoller's ventilation, Dec	112
Blowers vs. exhaust (e)	101
Door hinge prevented from turning by anchor	*25

Fan installation increased air 44 per cent in Killarney mine, Oct	7 2 4 8
Virginia Coal Operators' Assn.	
Officers elected	,
W	
Welding	
Arc-weld bonding for mine tracks. Kingsbury & Smith	
Cutter mairtenance by electric welding,	
Nov	
welding, Nov. *80 Tire arc welder *291	
West Kentucky Coal Bureau	
Officers elected 98	
West Virginia Coal Conference .	
Report of Morgantown meeting, Nov 92	
West Virginia Coal Mining Institute	
Election of officers, Nov	
Winding Gulf Operators' Assn. Officers elected	

MINE AND COMPANY INDEX

Alamo Coal Co.
Plants and equipment to be sold 175
Alta Coal Co.
Safety award to Summit mine, Nov 112 Amherst Coal Company
Downtering geroon air icts
Dron-axle mounting betters action of
Dewatering-screen air jets*167 Drop-axle mounting betters action of retarders on rescreen*222
disposal costs
Warm-air furnace improves heating in
washing plant*220
Anthracite Industries, Inc.
New York convention
Atlas Coal Co.
Four-yard walking dragline strips over- burden*319
burden*319
_
В
Backley Fire Coult Coll Commen
Beckley Fire Creek Coal Company Mine to tap Raleigh Field
Bell Heat, Coal & Mining Co
Mine to tap Raleigh Field
Bell & Zoller Coal & Mining Co.
Asbestos insulated cables reduce ma-
chine delays, Dec142
Dec snank twisted to promote safety,
Electrification Dec +102
History of the company, Dec *77
"Hot hooks" with own fuses replace
machine fuses, Dec*140
Maintenance, Dec125
Merchandising, Dec135
Dec methods and mechanical loading
Power generation, Dec. *109
Preparation plant, Dec
Pumping station facilitates boiler water
treatment, Dec
Pumping and drainage, Dec115
Shaft retimbering at Controlle Coal
Dec. *144
Preparation plant, Dec
Slide gate in loading boom aids in
changing cars, Dec
Substation operators grind bits, Dec*139
Doc perators make room bonds,
Supply service. Dec. *132
Timbers removed safely from remote
Timbers removed safely from remote point, Dec
Transportation practices, Dec *88
Vane arrangement signals mine-fan stoppage, Dec
Stoppage, Dec*144
Ventilation, Dec*112 Binkley Mining Co.
Bobolink strip mine employs tractor-
powered scraper*310

A	Switch box, transformer set designed for stripping*126
Ajax Coal Co. Safety car stop of old brake block, Oct. *78 Alamo Coal Co.	Black Hills Land & Cattle Co. Barbour mine to be reopened
Plants and equipment to be sold 175	Blue Bird Coal Co.
Alta Coal Co. Safety award to Summit mine, Nov 112	Auto truck parts make prospecting drill*168
Amherst Coal Company Dewatering-screen air jets	Boone County Coal Corp. Arcweld tire-filling practice*124 Frankel prize for community service awarded company
Warm-air furnace improves heating in washing plant *220 Anthracite Industries, Inc. New York convention *300 Fuel engineers' meeting 301	sequence controls
Atlas Coal Co. Four-yard walking dragline strips over-burden*319	steel boat *92 Track crossing made from discarded cutter parts *88
	Bortz Coal Co. Youngstown mine reopens, Dec 162
Beckley Fire Creek Coal Company	Brookside-Pratt Mining Co. Lindbergh mine under way, Oct 85
Mine to tap Raleigh Field	
Asbestos insulated cables reduce ma-	C
chine delays, Dec	Carrs Fork Coal Company Send-handling installation returns cost biennially
History of the company, Dec	Central State Collierles, Inc. Little Sister stripping layout includes washer and power plant*109
machine fuses, Dec	Centralia Coal Co. See Bell & Zoller Coal & Mining Co.
Mining methods and mechanical loading Dec. •79 Power generation, Dec. •109 Preparation plant, Dec. •94	Chauncey Colliery Reopens after eight months of idleness 31 Chicago, Wilmington & Franklin Coal Co. Hoisting engineers supervise power de-
Pumping station facilitates boiler water treatment, Dec	mand •124 Locked metal cases protect underground time books •24
Safety, Dec. •117 Shaft retimbering at Centralia Coal, Dec. •144	Mine switch signals use standard rall- way box
Skids reduce coal-cutting hazards, Dec.*146 Slide gate in loading boom aids in changing cars, Dec*140	board
Substation operators grind bits, Dec*139 Substation operators make room bonds.	Cochran Coal Co. Bumps welded on rails reduce derail- ments
Dec.	Chain-drag ditch cleaner*125 Trolley catching on beams stopped by wooden guard. Oct*77
Transportation practices, Dec	Colony Coal Company Central mine No. 1 to be reopened 30 Consolidated Coal Co.
Ventilation, Dec*112 Blnkley Mining Co.	Acetylene cost cut by piping gases to
Bobolink strip mine employs tractor- powered scraper*310	points of use*119 Consolidation Coal Co. Bander made from locomotive parts*329

•
Locomotive maintenance cost reduced
by shop jigs*368 Pictures on bin cards reduce warehouse
errors, Sept*78
Stoker coal plant improves preparation facilities*321
facilities*321 Trolley poles manufactured on metal working planner*371
Crescent Mining Co. See Bell & Zoller Coal and Mining Co.
D
Dawson Collieries, Inc.
Dawson Collieries, Inc. Development of new mine progressing. 99 Dominion Coal Co.
Compressed-air engine effects savings 27
E
Electric Shovel Coal Corp. New stripping mine planned
Central cleaning plant built at Wayland
J. H. Edwards, Nov
ing with stoker exhibit, Oct *71
Reorganization plan approved 178 Evans Colliery
Herman Bane leases colliery, Nov 112
Excelsior Coal Corp. Conveyor mining puts thin vein on competitive basis. Degen Boyd, Oct *51
positive basis. Degen Doya, certification
F
Fife Coal Co.
Setting sight lines with attachment*290
G
Galloway Coal Co. New mine in Walker County 373
Gauley Mountain Coal Co.
D.c. changed to a.c. and transmitted to another mine to care for surplus ca-
pacity
trolled end play
refuse handling
Regenerative incline handles men, coal and supplies. J. H. Edwards*357
Gibraltar Coal Mining Co.
Glamorgan Coals, Inc.
Glamorgan Coals, Inc. Sold to Peerless Coal, Oct

A

B

н	M	Jack and sheave help car movement,
Hamilton Coal Mining Company Mohawk mine operates again	MacAlpin Coal Co. Pocahontas No. 4 seam tapped	Sept. *75 Reitz Coal Company Oil drum facilitates borehole protection *24 Republic Steel Corporation Mt. Hope mine acquired
Hickory Grove Coal Mining Corp. Minnehaha plant burns	McAlester Fuel Company New roof treatment proves out at Southwestern mines. V. C. Robbins. 219 Monarch Anthracite Mining Co. Expansion program, Oct	teeth "28 Wires tightened in armature winding by using special puller
1	lieries, Dec 174	Southwestern Illinois Coal Corp. Streamline preparation plant features
Jones Brothers Coal Mining Co. Signs agreement with United Mine Workers, Nov. Jones Collieries, Inc. New preparation plant tops off modernization program Jones Mine, Zanesville, Ohio Mobile loaders and conveyors yield 9.7 tons per man. J. H. Edwards. 189 181 187	Nellis Coal Corp. Loaders, cutters and other mechanization overcome face preparation problems, Nov	gravity coal flow, Sept
	Old Ben Coal Corp.	Superior Coal Co.
K Kehoe-Berge Coal Company Flooded mines reopen	No. 11 mine recepened and mechanized. I. A. Given	Sit-down strike ended
Fan operation indicator, Sept	Paneast Colliery	Truax-Traer Coal Co.
Service shaft guarded when cage is down	Throop Mining leases colliery	Consolidated with Truax-Traer Lignite Coal Co
Service shaft guarded when cage is down . *89 Koppers Coal Co. Bag delivery of tamping clay	Buys Glamorgan Coals, Oct. 98 Penn Antharcite Collieries Co. RFC loan authorized, Oct. 96 Pennsylvania Coal & Coke Company Accident rates	Consolidated with Truax-Traer Lighte Coal Co
Service shaft guarded when cage is down . *89 Koppers Coal Co. Bag delivery of tamping clay	Buys Glamorgan Coals, Oct. 98 Penn Antharcite Collieries Co. RFC loan authorized, Oct. 96 Pennsylvania Coal & Coke Company Accident rates	Consolidated with Truax-Traer Lighte Coal Co

AUTHORS' INDEX

ALLEN. R. C. & C. T. Pearce. Light- ning danger minimized by protec- tive devices pt. 1, Sept. *59; pt.	Baum, Walter. Cutting shapes with lathe	C ROW, O. G. & T. J. Jackson. Major trends in power use and cost at Appalachian coal mines *3
Ambrose, H. A. & H. J. R. Gasparl, Oil treatment lessens spontaneous heating tendencies	Reclaiming clutch flanges	Dake, Walter M. Analysis of variables key to mechanization success, Oct
BARNES, W. F. Modern architecture enters preparation plant design,	Young. Cost of mine supplies close to 1929 average per ton*259 Boyd, Degen. Conveyor mining puts thin yein on competitive basis, Oct *51	EDWARDS, J. H. All-conveyor mine averages 8.27 tons per man-shift, Sept

Elk Horn builds central cleaning plant at Wayland, Nov	Repub
Mobile loaders and conveyors yield 9.7 tons per man	Harrington, I
coal and supplies	JACKSON, T. trend Appala Johnson, Edwi
FELLOWS, PERRY A. Sealing projects reduce stream pollution from abandoned mines	Jones, G. H. breakir Joyce, A. R.
Foster, H. T. Break in roof, not floor, Oct	Kingsbury,
GASPARI, H. J. R. & H. A. Ambrose. Oil treatment lessens spontaneous heating tendencies	LOUTTIT, JA makes produc
improved equipment design*192 Preparation efficiency goal at Willow Grove plant, Oct*65 Small stripping units give flexibility and high output*355 26-yd. stripper and 7-yd. loader re- cover 6-ft. seam, Sept*50	McHugh, Russe tion 1 Oct. Morton, D. P.
HALL, R. DAWSON. Long-hole volley shooting razes pitching pillars*349 Mechanization speeds development at Mydeon Coal Co. Sent. **52	Murphy, Thom heavily
Hudson Coal Co., Sept	PEARCE, C. ning do tive de 2, Oct.

*195; pt. 2*255	ROBBINS, V. C. New roof treatment proves out at Southwestern mines. 219
Harrington, D. Safety records forecast new low in fatality rates 73	_
JACKSON, T. J. & O. G. Crow. Major trend in power use and cost at Appalachian coal mines	SAMSON, HECTOR B. Power vs. repair costs in pump operating economy.*364 Shacikoski, Anthony. Caving chambers prevent water and gas breaking
Johnson, Edwin H. Coordination in me- chanical mining—what to expect. 317 Jones, G. H. Anthracite cleaned before	Smith, E. A. Increase pipe size, Oct 110 Smith, F. F. & C. R. Kingsbury. Arc-
breaking to domestic sizes*145 Joyce, A. R. Wood also serves234	weld bonding for mine tracks*361 Smith, Frank G. Millfield modernization triples mean hourly output*152
KINGSBURY, C. R. & F. F. Smith. Arcweld bonding for mine tracks*361	Smith, H. I. Methane concentration 234 Swann, C. E. Reliance modernization keys mine to mechanization, Nov *69
LOUTTIT, JAMES E. Fireless cooking makes smokeless fuel and by-products	TRYON, F. G. & D. C. Ashmead. Anthracite's mine supply and wage costs in 1935, Sept
McFARLIN, CARL. Mechanization at Whitwell cut costs 17½ per cent in low scam*352 McHugh, Russell. Triple shift mechaniza-	Tryon, F. G., W. H. Young & F. E. Berquist. Cost of mine supplies close to 1929 average per ton*250
tion features Hanna operation, Oct	WEINECK, W. E. Breaker at Glen Lyon establishes cleaning prece- dents
PEARCE, C. T. & R. C. Allen. Light- ning danger minimized by protec- tive devices, pt. 1, Sept. *59; pt. 2, Oct. *55	YOUNG, W. H., F. G. Tryon & F. E. Berquist. Cost of mine supplies close to 1929 average per ton•250